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Original Communications.

SOME PECULIAR CASES OF OVARIOTOMY, WITH THE DESCRIPTION OF A NEW METHOD OF TREATING THE PEDICLE.

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Surgery in the Medical School of Maine, &c.

FROM among some recent cases of ovariotomy, I have selected the following as possessing points of special interest. I shall only give such details as are necessary to bring the peculiar features of each fairly into view.

CASE I.—This was a married lady of 40 years, with a unilocular cyst. So uniform and extreme was the distention that an experienced surgeon had diagnosed ascites. The tumor was removed in the usual manner. The second ovary being the seat of incipient cystic degeneration, was also excised, and the ligatures from either pedicle carried through the *cul de sac* of Douglass. These separated slowly, with a good deal of suppuration, the last one coming away on the twenty-eighth day after the operation. During this period the patient suffered a severe attack of phlegmasia dolens of the left side, from which she did not fully recover until after the extrusion of the last ligature. For nearly the same length of time there was retention of urine and a curious discharge of pus from the bladder, the latter appearing about the tenth day. From first to last there were no subjective symptoms of cystitis, or any sign of other cystic derangement than retention from paralysis, except that after emptying the bladder of clear, normal urine, there ran out through the catheter a quantity of pure laudable pus, varying in quantity at different times from half an ounce to an ounce and a half. *This was never mixed with the urine.* This condition, like the phlebitis, gradually subsided, and the patient made a good recovery. At the return of the catamenial period, she experienced the usual premonitory symptoms and a flow of blood

VOL. VII.—No. 9

from the vagina, lasting a few hours. This has not been repeated.

For a record of the case subsequent to the operation, I am indebted to my friend Dr. Kimball, of Bridgeton, to whose unremitting care and praiseworthy skill this woman owes her recovery.

It is now two years since, and the lady remains in excellent health.

It is an important question whether or not the phlebitis in this case was due to the proximity of the ligatures to the uterine plexus of veins. The same complication has occurred in two other cases of mine on the same side of the pedicle, the ligatures being carried through the vagina, and the phlebitis occurring on the same side as the pedicle. In this instance, the fact of its appearing on the left side argues nothing, as both ovaries were removed. The same thing has happened in the practice of several of my friends, and in all the cases which have come to my knowledge the ligatures were similarly disposed of. It therefore becomes important to know whether this particular disposition of the ligatures favors this accident, and to what degree, as compared with other methods of dealing with the pedicle. None of the three cases in my practice have proved fatal. This is the fourth case in which I have removed both ovaries. All have recovered, and all have presented the same menstrual phenomena subsequently; one at two successive periods.

When we remember the frequency with which incipient disease of the second coexists with developed disease of the first, and the great liability therefore that the same error of nutrition that produced the first tumor will subsequently determine the formation of a second, is it not better always to excise both, and so put the patient beyond the possibility of a repetition of so fearful an ordeal? While at present holding this question open in my own mind, I am nevertheless inclined to answer it in the affirmative. Case V. forcibly illustrates the importance of this question.

CASE II.—Mrs. —, aged 37; had borne two children, and in the winter of 1868-69

[WHOLE No. 2248

supposed herself pregnant again, having her ordinary symptoms—suppression of the menses, gastric disturbance, &c. In April following, she was sure she felt “quickening,” and although somewhat undecided as to dates, looked forward to mid-summer as the probable time of her deliverance. But although she continued to enlarge and to feel the “motions” very distinctly, as she affirmed, yet summer passed into autumn, and no signs of labor appeared. She also had an occasional slight menstrual flow at irregular intervals. Her health now gave way, the distention and weight became oppressive, and she suffered from frequent attacks of peritonitis. About the first of November, 1869, she came under the care of my colleague, Prof. Wm. C. Robinson, of this city, who asked me to see her. I found her very feeble, emaciated, with a rapid, small pulse, and much abdominal tenderness—so much so as to render a thorough examination impracticable. It was evident, however, that instead of being *enceinte* she had a large tumor, either ovarian or uterine, with considerable ascitic accumulation. She still persisted that she distinctly felt the motions of her child, and it was several days before she could be gently and gradually disabused of the idea. This being done, she was tapped, and about eighteen pounds of fluid removed; two thirds of this was serous, and the remainder the chocolate-colored contents of an ovarian tumor. The peritoneal fluid was allowed to escape before the cyst was punctured. There still remained a large mass, which was diagnosed as a multilocular ovarian tumor, made up of small cysts, and apparently firmly adherent. She got considerable temporary relief, but within two weeks was as large as before, suffering fearfully, and she rapidly reached a point where she was confined to the bed, with a pulse of 130 per minute, the digestive organs being so crowded as to refuse their office. In this forlorn condition, the patient begged for an operation. She seemed profoundly impressed with the idea that she should survive it and recover, and was really, I think, the most impatient person for surgical interference I have ever seen. Both herself and friends were told plainly that the probabilities were entirely against her, either as regarded the immediate shock of the operation or ultimate recovery. But so pertinaciously did they cling to the possibilities, that it was deemed proper to attempt extirpation of the growth. Accordingly, with the assistance of Drs. Robinson, Gerish, Hunt, B. B. Foster and Yates, I

operated. Upon exposing the tumor, it was found to be an ovarian polycyst, very firmly adherent in all directions. The marked peculiarity was that at the upper portion, above the cyst which had been tapped, lay another, which had ruptured and discharged a large part of its contents into the peritoneal cavity. The contents may be best described as curdy and gelatinous matters intermixed, the firm caseous material predominating, lying in the half-emptied sac, and coating the viscera and parietal layer of the peritoneum. So abundant was this, and so intimately attached, that after removing the tumor in the usual way, it was almost impossible to clear away this aplastic matter thoroughly. At many points, masses were peeled off as thick as the hand, and from one to two inches square. The ligatures were brought through the lower angle of the wound, which was closed by interrupted silver sutures, and a large compress of cotton wool applied and secured by a binder. The ligatures were thus disposed of for the reason that I anticipated a necessity of much washing of the abdominal cavity on account of the peculiar nature of its contents. The operation was perfectly borne, no shock whatever, and the following night was more comfortable than any she had experienced for weeks. There was a moderate oozing of reddish serum for forty-eight hours, when it was replaced by a flaky, puriform discharge, which soon became offensive. The odor was corrected by carbolic solutions, with which the cavity was thoroughly washed night and morning; and so grateful were these blood-warm injections that she was impatient for the time when they were to be used. For eight days she lay comfortable, cheerful and hopeful, but unable to retain anything like the amount of nourishment she required. She craved, but could not appropriate it, on account of the weak and irritable condition of the stomach, and upon the eighth day she sank from asthenia.

The points of especial interest in this as in each case will of course be obvious to the reader. I cannot refrain from saying, however, that had this lady been operated upon a few months earlier, in all probability she would have recovered. She almost turned toward convalescence as it was, and if she could have been relieved before her health was completely destroyed, her confidence, will and tenacity to life would have given her a large percentage of chances.

In ovariectomy, wait till the system bends under the burden so much that the operation

shall relieve instead of shocking it, but don't wait till it breaks.

CASE III.—Mrs. P., aged 35, came to consult me with her physician, Dr. Stockbridge, of Bath, in October, 1869. Her whole appearance and manner entirely sustained the reputation which she bore as a woman of wonderful energy and endurance. She said that she had always enjoyed uninterrupted health, but for two or three years had been "growing stout." It seemed, however, upon inquiry that this change was confined entirely to the abdomen, and had been sufficient to elicit jocose remarks from her lady friends. (She had never borne children.) She thought but little of it, and for it did not consult a physician. In June, of 1869, after attending a meeting in the open air, and standing for a long time on the cold, damp ground, she was seized with acute peritonitis and sent for Dr. Stockbridge. The disease was of the most acute and sthenic type, and only yielded to the most prompt and heroic treatment. As the inflammation subsided, enormous ascitic accumulation took place, the most extreme, Dr. S. declared, that he had ever seen. This continued undiminished, her health constantly improving, until September following, when it suddenly began rapidly to diminish. As the general swelling subsided, she discovered a firm mass in the bowels, to which she called the doctor's attention, and which was the first intimation to herself or physician of any tumor.

Upon examination, I found still quite a large accumulation of fluid in the peritoneal cavity, in which floated a hard tumor, which was pronounced ovarian. She was anxious for immediate removal. My advice, in which Dr. Stockbridge concurred, was to wait until the signs of constitutional impression were unmistakable, and then submit to the operation if she so elected. In February, 1870, Dr. S. wrote me, saying that he felt sure the time had come for the operation, and accordingly, with the assistance of Drs. Stockbridge and Fuller of Bath, Hill of Augusta, and Gerrish of Portland, I removed the tumor. She was in good spirits on the morning of the operation, and the case seemed very promising.

On opening the abdomen, by a short incision, several ounces of serum escaped, when the opening filled with a firm, clear, gelatinous substance. The incision was now extended upward, and the same substance was found covering the tumor and viscera everywhere, and adherent more or less to the parietes. A careful examination was now instituted, which revealed the fact

that the tumor was a multilocular cyst of the ovary, all the cysts being very small, with a large amount of firm, fibrous stroma, except one at the upper part of the mass. This was of large size and had ruptured, pouring out this jelly-like matter into the general cavity of the abdomen. The tumor was removed, the ligatures brought out at the lower angle, and an attempt made to cleanse the cavity of this peculiar material. *It was as consistent as common wine jelly*, and although the utmost pains were taken to remove every particle, yet so extensively diffused and so viscid was it that we could only approximate to perfect cleanliness. The wound was dressed as in the other cases, and an unfavorable prognosis given. She sustained no shock of consequence, but died on the fourth day, of peritonitis.

Was it possible to have diagnosed this condition *ante sectionem*?

Was it in Case II.? In what proportion of cases where peritonitis occurs, is there rupture of a cyst?

CASE IV.—Miss —, aged 20, had noticed "an unusual fullness of the bowels" for two years or more, but thought little of it until the winter of '69-70, when it increased rapidly, and strength and flesh began to fail.

I saw her by request of her physician, Dr. N. T. Palmer, of Brunswick, on the first of May following, and found her prostrate and suffering exceedingly from abdominal distention, which was general and uniform, with distinct fluctuation at every point. So great was the tension compared with the size, that we concluded it to be probably an ovarian sac. Tapping relieved her of 20 pounds of chocolate-colored fluid, thus verifying the diagnosis. After this operation, not a sign of a sac or anything abnormal could be felt within. The sac re-filled in three weeks, before she had time to recover her strength; and with a perfect knowledge of the risks, she and her friends decided to bide the issue of extirpation. The operation was made with the assistance of Drs. Palmer, Lincoln and Mitchell, of Brunswick, Prof. A. B. Palmer, of the Medical School of Maine, Dr. Gerrish, of Portland, and Geo. W. Foster, student. The exploratory incision revealed a single cyst of the right ovary, with exceedingly thin walls, and free from adhesions anteriorly. After evacuating its contents, I found to my great dismay that posteriorly and superiorly, to stomach, intestines and liver, it was so firmly adherent that I did not think it possible to separate it. At least, all the force I dared to use lest I rupture either

sac or viscera—and I am accustomed to breaking up firm adhesions in this locality—failed to produce any effect. I now took a female catheter with large eyelets, and introducing it into the sac, I drew out so much of the cyst as was practicable without too much tension, and wound that portion which was thus brought within the lips of the wound (at its dependent portion of course), firmly upon the catheter with three turns of silver wire, the two ends of which were used for the last suture; I now cut off the extruded portion of the sac. The catheter was supported laterally by adhesive plaster, stopped with a cork, and the wound dressed as usual. She rallied well, and passed a good night.

Every 4 hours the cork was removed, and the fluid allowed to run off. For 48 hours this varied from 2 to 4 ounces of deep chocolate liquid, highly albuminous. It then gradually became puriform, and at last quite laudable pus. At the same time it diminished in quantity. Although very feeble, she progressed without any bad symptoms. The catheter was removed on the twenty-fourth day, and a tent introduced, which was renewed daily. During the summer and early autumn, she slowly but steadily improved in strength and flesh. In October, she complained of pain and soreness in the lumbar region, and flagged a little. I saw her about the first of November last, and found tumefaction and deep fluctuation at the painful point in the right lumbar region. A quickened pulse and failure of strength, although still able to walk and ride, made me, as well as Dr. Palmer, fearful that we were to have serious trouble. She had been constantly taking iron; chlorate of potash was now added, and a general tonic plan urged. In a very few days the discharge, which had been for a long time very slight, suddenly increased, was purulent in character, the lumbar distress and swelling disappeared, and she rapidly improved in health.

She is now in this city visiting her friends, and was in my office last week. The opening is closed. The abdomen is perfectly normal to all appearance, except that underneath and around the scar of the opening which has just closed, the remains of the sac can be felt over a space three inches square. She eats, sleeps, walks, rides, and lives like other people, has all her functions perfectly performed, and is the picture of health.

It should be borne in mind that here, as always, I dressed the parts after closing the wound with a thick compress of cotton

wool confined with a binder: in other words, with firm, even, elastic pressure.

In the after-treatment, much credit is due not only to her attending physician, but to Drs. Gerrish and B. B. Foster, of this city, and Messrs. G. W. Foster and Frank Bibber, students.

Should any ulterior changes of interest in connection with this case come to my knowledge, I will promptly report them.

CASE V.—Miss —, aged 40. Sustained the removal of a multilocular cyst of the left ovary in the summer of 1868. The operation was performed by a distinguished ovariologist, and her recovery, although slow, and for some time very doubtful, was ultimately perfect. In the autumn of 1869, she began to enlarge again slowly.

In January, 1870, she suffered a severe attack of peritonitis, from which she recovered under the care of her physician, Dr. Gilman Davies, of this city. From this time the development went steadily on, as in the first case, and by the following September she had failed in flesh and strength in a marked degree, and suffered much pain. About the last of September, she consulted the surgeon who removed the first tumor and he pronounced this one malignant, said that nothing could be done, and that she could live but a few weeks. The result of such an announcement was a terrible shock to her nervous system, from which she never recovered. Previously courageous and hopeful, and possessed of extraordinary energy, she was now seized with a rigor and faintness which lasted her during her journey of one hundred miles home. She lost all appetite, took her bed, made her will, and as best she could prepared for a speedy dissolution. For three weeks she lay in this prostrate, wrecked state, suffering a great amount of pain, on account of which, as well as her mental condition, she got hardly any sleep. At the end of this time I saw her in consultation with Drs. Davies, Wood and Gilman, of this city. After a very careful investigation, I made the diagnosis, in which the gentlemen named fully concurred, of multilocular cystic tumor of right ovary, the sacs small and very firmly adherent. We were unqualified in the opinion that it was ovarian and benign. True, there was great pain, but she had suffered nine months before from acute peritonitis, the tumor was growing rapidly, and extensive, firm adhesions bridling such a tumor were sufficient to account for the pain. True, the tumor lay mostly upon the left side, and yet the left ovary had been removed; but an examination per vagi-

nam showed that the fundus uteri was tilted to the left as if drawn into that position. True again, she was very weak, and had a rapid pulse—130 per minute. But there was no cancer in the family, and her debility was explained without any reference to malignancy of the tumor; and the pulse was no more nor as rapid as I had seen it in cases that had recovered. Mrs. S., of Wilmington, Vermont, now living in that town, a patient of Dr. Talbot, of W., upon whom I operated in January, 1865, had a worse pulse than this patient. So did Mrs. —, Case III., of a previous series reported in this JOURNAL. It is wonderful what an effect the simple pressure of such a tumor sometimes produces upon the circulation. In the case of a young lady aged 16, a patient of Dr. H. S. Lucas, of Chester, Mass., upon whom I operated in 1864, before three several preliminary tappings, two made by himself and one by myself, the pulse rose to a rate of 130 to 140 per minute, and within an hour after each tapping it had fallen to the average rate.

In addition to the diagnosis of a benign cyst of the ovary, I expressed the opinion that it could be removed, but whether the patient could sustain the operation, or rally afterward, was deemed very doubtful. Yet it was unanimously agreed that the operation offered a possible chance of cure, and that without it the case was hopeless, and that she was entitled to the trial if she chose to make it. After a few hours she decided affirmatively, and was very impatient that it be made at once, and on the 27th of October, 1870, I removed the tumor in presence and with the assistance of Drs. Davies, Wood, Gilman, T. A. Foster and Gerrish, and G. W. Foster, student. Precisely that was found which had been prognosticated. A polycyst of the right ovary had rotated to the left side, dragging, by a long, narrow pedicle, the fundus uteri after it. The adhesions were very numerous and strong; they were, however, readily overcome, and the operation completed without serious difficulty. The pedicle was treated with the spring ligature, and the wound dressed by elastic compress. There was no shock, but on the contrary an indescribable sense of relief from pain and burden, and she became as cheerful and hopeful as she had been previously depressed. The pulse fell in frequency, she slept sweetly, and began to call loudly for food. Now came the trouble. So exhausted was she that the stomach refused to accept the requisite amount of nutriment, and in spite of all our united efforts, she sank, and died

upon the third day from pure exhaustion, not having had a particle of pain or discomfort in the abdomen after the operation. An autopsy revealed union by first intention at every point, and everything in the best possible condition. She died because she had passed beyond the rallying point before the operation. The case teaches its own lesson without any remark.

I have now to describe the spring ligature, and its operation in this the first case in which it was ever used. Sad as was the termination, and needless, as every physician present at the operation and autopsy believes, had the operation been made a few weeks earlier, the fatal issue afforded a perfect opportunity for observing the action of the new instrument.

About ten months ago, in conversation with Dr. H. H. Hill, of Augusta, well known as one of the leading surgeons in this State, he described an instrument which he had devised and made with his own hands for the removal of intra-uterine polypi, and which he subsequently sent me. Fig. 1

FIG. 1.



gives a correct idea of this instrument, which is merely a steel rod $\frac{1}{8}$ of an inch in diameter, with a perforated shoulder turned at one end, the other being flattened and bent into the spring, which is better described by the engraving than by any words. The straight shaft is six and one half inches long. The *modus operandi* suggests itself at a glance. The ligature, for which Dr. Hill employs hempen thread and annealed iron wire twisted together, is cast around the neck of the polypus; the two ends are then passed through the shoulder, which is pushed firmly up to the pedicle and fastened to the extremity of the spring while it is closed by the hand. The moment the hand relaxes its grasp, the force of the spring strangulates the growth,

and this force is constantly maintained until the ligature cuts its way through.

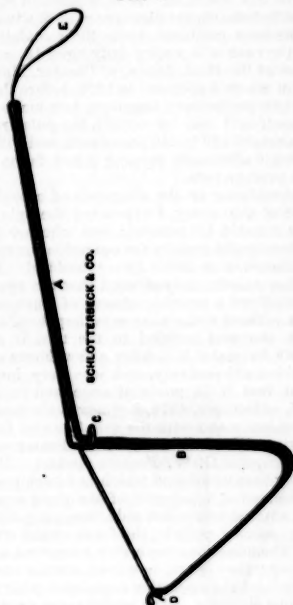
Dr. H. stated that with a large experience in its use he had never failed to remove the growth without any trouble, and that there had never been in a single case any sign of suppuration. To quote his quaint expression:—"I apply it and tell the woman, when it comes away to wash it and send it home." My delight at the simplicity and evident effectiveness of this contrivance was only equalled by my surprise that for eighteen years the Doctor's modesty had prevented his bringing it to the notice of the profession. It immediately occurred to me that its range of application could be extended to the removal of rectal and naso-pharyngeal tumors, and to the treatment of the pedicles of deep-seated growths in the cervical and other regions. With these suggestions Dr. Hill entirely agreed, as also with the idea of having springs of different sizes and power, fitting the same shaft, fastening with a catch-spring or thumb-screw, and of grooving the shaft, so as to sink the ligature below its surface, letting the groove terminate in an opening at the end of the shaft, thus doing away with the shoulder. The original spring was also a little too long, lifting the ligature a little above the level of the shaft. Dr. Hill was so kind as to place the instrument in my hands, with the request that I would study and modify it as I pleased, and make such disposition of it as I thought best.

After a little reflection, I became satisfied that here was precisely the kind of action that was needed in treating the ovarian pedicle. The reason why the ordinary ligature is so slow in separating and provokes so much suppuration, is that immediately it is tied it begins to loosen, and after a little ulceration its tension is entirely lost, and it lies in the ulcerating track as a foreign body. Applied with this spring, its action becomes necessarily unremitting, and not only must it for this reason be much more rapid, but it cannot for a moment linger in contact with the divided surfaces as an irritant. To Dr. Hill's mind, as to my own, the evidence furnished by his cases of intra-uterine fibroids was conclusive that the healing process followed immediately the track of the ligature, hence the entire absence of discharge.

My first step was to carry out the modifications of the original instrument, to which I have already referred, and which Fig. 2 illustrates. A is the shaft, three-sixteenths of an inch in diameter and eight inches

long, grooved to the centre, except at the end where the groove becomes a perforation, through which the ligature, E, passes to be fastened to the spring at D. The other side of the spring, B, fits into an opening, and fastens with a thumb-screw at C. This makes a perfect instrument for intra-uterine work, and, made of suitable length, for the removal of neoplasms from the rectum, nose or throat. For naso-pharyngeal tumors, the shaft of the one which I have is only four inches long, and the whole instrument very light.

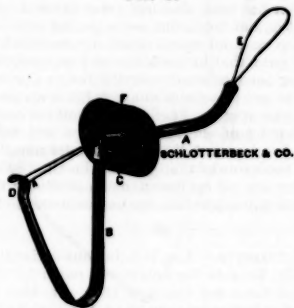
Fig. 2



The modified instrument is made longer than the first one, to adapt it to the ligation of the ovarian pedicle through the *cul de sac* of Douglass. It may be curved for this purpose to correspond with the vaginal axis, with the groove upon the convex side. My former practice was to carry the common ligatures through the vagina, and in connection with the report of a few cases I argued briefly for this method in this JOURNAL a few years since. I still think it an excellent plan, and if this be the direction cho-

sen I cannot for a moment doubt that the use of the instrument described is a vast improvement upon that of the simple ligature; but I confess I am less inclined than formerly to prefer this as an exclusive method. I have had three cases of phlegmasia dolens arising after ovariectomy where the ligatures were carried through the vagina, apparently dependent upon the long-continued presence of the ligatures in such close proximity to the veins. Moreover, in several recent cases where circumstances forbade carrying the ligatures behind the uterus, and where the pedicle was too short for the clamp, I have brought the ligatures out at the lower angle of the wound, and have been entirely satisfied with the plan. By the pressure of the abdominal bandage the viscera are made to fill the pelvic basin so as to effectually displace any fluid there, and thus drainage is practically thorough in this way, while at the same time the cavity of the abdomen can be washed out with greater ease, should occasion arise. I am therefore inclined to think that the greater facility of application and the greater immunity which it gives from phlebitis will lead to the preference, in a majority of cases, for the instrument represented in Fig. 3, which is to carry the ligature through

FIG. 3.



the dependent angle of the wound. A is a short steel shaft, moderately curved near the end, and grooved and perforated for the ligature, as in Fig. 2. This screws into the steel plate C F, which supports upon its upper surface a short, upright, hollow cylinder, the tube being continuous with the groove of the staff when fitted. An angular offshoot from this receives the spring B, which fastens as in the other form of the instrument.

Fig. 4 shows the operation of a screw

and clamp for closing and holding the spring while the ligature is being adjusted. Its application is very simple and easy. The ligature, which should be a metallic one, being cast around the pedicle, its two ends are carried through the canal to D, and fastened while the spring is shut. The shaft rests in the lower angle of the incision, which is elsewhere closed. The plate rests upon the integument, the spring lying upon the pubis in the median line, and is supported laterally by the compress and binder

FIG. 4.



properly adjusted. The groove aids in drainage. The entire instrument weighs less than Wells's clamp. The length of the shaft should be such that it will support the stump in, or nearly in, its normal position without any strain, and as in different cases there is much variation in the length of the pedicle and thickness of abdominal wall, I have had three shafts made of different lengths for the same plate, the shortest measuring $2\frac{1}{2}$ inches and the longest $4\frac{1}{2}$ inches.

This instrument, both in its original and modified forms, I exhibited and described, in much the same language as I have used above, at the meeting of the Maine Medical Association in Bangor, June, 1870, applying to it the name of *spring ligator*. Since that time I have had the one represented in Fig. 3 modified as follows: The plate is fitted to receive two shafts instead of one for double ovariectomy, and these merely slide into place, instead of screwing in, being fastened with a little thumb screw. The opening at the extremity for the ligature is made a little larger, and just above the end is transfixed with a pin, which "stops" the ligature when its work is completed. In this form the instrument is made in an excellent manner and handsomely packed by Schlotterbeck & Co., of this city.

I hardly need repeat that the credit of this instrument in its original form belongs entirely to Dr. Hill. The modifications only are mine.

At the time of its exhibition to our State Society, no opportunity had offered to test its action upon an ovarian pedicle, and although I felt entire confidence in it, and so expressed myself, as did the surgeons pre-

sent, we were nevertheless anxious for a demonstration of its power. As I have already said, such an opportunity was afforded in Case V. In this instance, the pedicle was an inch and a half wide and half an inch thick before it was compressed at all. The spring ligator was applied with perfect ease, and in every way seemed so entirely adapted to the purpose as to elicit expressions of unqualified commendation from all present. The ligature used in this case was platinum wire, which I employed at the suggestion of my student, Geo. W. Foster, Ph. D., on account of its combination of strength and flexibility. The patient died sixty-four hours after its application. There had not been the least hæmorrhage or supuration, and the ligature had already divided fully four-fifths of the stump. More than this, *the extremity of the stump had not mortified, being fresh, the dividing surfaces having reunited at every point behind the ligature by well-organized lymph.* This specimen was shown to the Portland School Medical Society when fresh, and I have it preserved.

While this was entirely unexpected, it was not novel. The same thing has happened to Dr. Sims, and other surgeons, in treating morbid growths with metallic threads. For example, Dr. Sims ligated a little excrescence on the face with silver wire so tightly as to leave no doubt of its strangulation. The next day, however, it was healthy, and the wire was buried in its substance. The balance between the pressure and rapidity of ulceration is such that although all vessels are secure from hæmorrhage, vitality is not necessarily destroyed. How often this will happen I cannot say; but that it can occur is an argument for the use of the metallic ligature in this operation. Would it be safe to use the same in treating a neoplasm? It will be seen that if this lady had lived, separation would have been accomplished by the end of the fourth day, undoubtedly, and that there would have been no slough left in the peritoneal cavity, and, so far as we could judge from the autopsy, not a drop of pus.

One lesson that the peculiar cases herein reported teach is our need of more extensive data in the form of careful and impartial reports of cases, for the settlement of many points in connection with the diagnosis and treatment of ovarian tumors, and the same is true in every department of surgery.

The tongue or pen that shall rouse the members of our profession to a realizing sense of their duty and privilege in this respect will do great service to the world.

All along the border lines of our knowledge lie vexed questions touching the highest interests of humanity, the importance of which impress profoundly the minds of all thoughtful and earnest men, and the solution of which will never be reached until there is more concert of observation and freer interchange of views in the profession; until that indifference, or modesty, or timidity, whichever it may be, that allows the experience of medical men to die with them has passed away. All through the land, not merely in cities and large towns, but in the remote and isolated fields of country practice, are hosts of sagacious and skilful men, the results of whose experience and observation would be a rich legacy to the profession. I think that while oftentimes indifference to the want of data, on the one hand, and on the other an unwillingness to report fatal cases, explain the lack of activity in this direction, after all the majority of medical men are prevented from writing out their own experience from a feeling that only *outré* cases are expected to be reported or will be acceptable to medical journals. At least, this is a fair inference from the answers to my own questionings.

Whether or not, in other departments of knowledge, it may be true, as an eminent writer has said, that our great need at present is, not facts, but some genius who can grasp and interpret those accumulated, I feel sure that in medicine and surgery the great need is *incontrovertible facts*; and, until we possess them in much fuller measure than we now do, I believe we shall not reach that point of average knowledge and mental development that shall render possible the evolution of that genius who shall bring order out of confusion and coördinate the seemingly unlike into one harmonious whole.

GELSEMINUM.—The conclusions arrived at by Dr. Roberts Bartholow, in a paper in *The Practitioner* for October, 1870, are, that in frogs gelseminum acts upon the nerve-centres, paralyzing first the sensory ganglia, and afterwards the motor; that it does not affect muscular irritability, nor the peripheral nerve-fibres. In warm-blooded animals, the same effects were observed, save only that the nerve-fibres were first affected. There is also produced a depression of temperature, 30° F. in the case of a pigeon, 40° in that of a kitten. The doctor states that repeated trials have convinced him that there is no antagonism between it and strychnia.—*Phil. Med. Times.*

Selected Papers.

OBSERVATIONS UPON THE PHYSIOLOGY OF THE EUSTACHIAN TUBE.

By JOHN GREEN, M.D., St. Louis, Mo.

DURING the past winter and spring two bridge-piers have been sunk to the rock underlying the bed of the Mississippi River at St. Louis. The work has been performed by a method known to engineers as the *plenum pneumatic*, necessitating the excavation of the sand by men working in an air-chamber, under an atmospheric pressure increasing with the depth below the surface of the water, and equaling at one time, during high water, at the eastern pier, no less than four atmospheres, or sixty pounds to the square inch.

The entrance to the chamber of condensed air was through an "air-lock," or small chamber into which the condensed air could be admitted gradually, occupying, for the higher degrees of pressure, from five to ten minutes. The exit was through the same lock, and occupied about the same time.

The temperature within the air-chamber was that of the external air, increased somewhat by the animal heat of the workmen and by the burning of candles. The increased oxidizing power of the condensed air was shown by the rapid wasting and guttering of the candles, which burned with a streaming, smoky flame, and by the fact that a candle, when blown out, rekindled spontaneously from the glowing wick. The processes of oxidation and waste of tissue within the body seemed also to be considerably augmented; during the earlier stages of the work, corresponding to a pressure of two or two and a half atmospheres, the workmen remained in the air-chamber six hours at a time, and often worked twelve hours out of the twenty-four; but, as the pressure increased, the time of labor had to be shortened, until at last it was reduced to an hour, alternating with three hours of rest. During the last stages of the work, at the greatest depth, a remarkable form of paraplegia broke out among the laborers, and was even observed in several cases of persons casually visiting the works. Nearly all the workmen suffered in some degree from cramps, a large number were paralyzed, some (at least a dozen) died. A sketch of the symptoms, with notes on pathological changes discovered in the central nervous system, and

VOL. VII.—No. 9A

especially in the lumbar portion of the spinal cord, has been published by Prof. Louis Bauer in the *St. Louis Medical and Surgical Journal* for May, 1870.

The exit from the air-chamber, through the lock, was attended by a marked reduction of temperature, amounting to ten or twelve degrees when but one or two persons were in the lock; with six or eight persons crowding the lock, the change in temperature was hardly noticed, except when the condensed air was allowed to escape very rapidly. The sudden chilling of the surface of the body from this cause gave rise to frequent catarrhs, both among the more careless workmen and visitors who were not forewarned of the danger.

A visit to the air-chamber, a short time before the completion of the work at the eastern pier, afforded the opportunity of making a few observations, meagre in themselves, but suggesting a line of experiment which may possibly be carried out at a future time, when the state of the works shall permit another visit.

The time occupied in passing the lock was ten minutes, corresponding to a tolerably uniform increase of pressure of about one and a fifth ounce to the square inch for each second of time.

Three or four seconds, corresponding to about as many ounces of pressure to the square inch, sufficed to produce a distinct sensation of tension upon the tympanic membranes in both ears, which in a few seconds more became somewhat painful. This sense of tension was instantly and perfectly relieved by the experiment of Valsalva, by the act of swallowing, or by a voluntary action of the palatine and pharyngeal muscles, by which the writer is able to open the Eustachian tubes and hold them open for a considerable time. A few seconds sufficed to reproduce the sensation of pressure, necessitating the repetition of the relieving act. All three methods were effective, but the difficulty of frequently swallowing without eating or drinking, and a want of aptitude in holding the tubes continuously open, resulted in a decided preference for the method by inflation.

When once within the air-chamber the sensation was in no respect peculiar. Respiration and the heart's action became, however, somewhat accelerated upon comparatively slight exertion. The novelty of the situation, the desire to inspect the principal features of the work, the want of special preparation for the visit, and above all the noise made by twenty men shovelling and ramming concrete, made it extremely diffi-

cult to try any acoustic experiments, and must explain the meagreness of the observations in this respect.

A metallic percussion sound, the ticking of a watch, was, notwithstanding the noise, heard with great distinctness, and was apparently much louder than under the usual atmospheric pressure.

The voice seemed changed in timbre, but not remarkably in power. It required an unusual effort to keep up a conversation, but this was due in part at least to the sounds made by the tools of the workmen.

The most remarkable phenomenon, and one constantly observed, was the extreme difficulty (and, under the higher degrees of pressure, impossibility) of making an audible sound by the effort to whistle with the lips.

These observations suggest a series of comparative experiments with the tuning-fork, reeds and pipes, which may be undertaken a few months hence.

In coming out of the air-chamber through the lock (the time occupied being about ten minutes), the only phenomenon connected with the tympanic apparatus was the spontaneous escape of the condensed air through the Eustachian tubes. This occurred, not in a continuous current, but by a succession of little puffs, succeeding each other at intervals of fifteen or twenty seconds, independently of respiration, and absolutely without the concurrence of any muscular action. The whole phenomenon was in fact suggestive of the action of a lightly-resisting valve, necessitating a slight but perceptible increase of pressure within the tympanic cavity, to open the passage to the pharynx. This observation was made with great care, and is fully confirmed by intelligent persons who have been questioned upon the subject, although, previously to the visit which forms the subject of this communication, no other statement could be elicited than the bare fact that no unpleasant sensations were felt in the ears on coming out of the air-chamber.

The writer has had occasion to examine a considerable number of cases in which persons have suffered from affections of the ear, originating in visits to the air-chamber. These affections have been primarily of two kinds: 1. Rupture of the membrana tympani from external pressure in cases of impervious Eustachian tube, and perhaps also of persons not instructed in the methods for restoring the equilibrium of pressure. 2. Acute tubal or aural catarrh, attributable probably to the sudden reduction of temperature in the air-lock.

The cases of rupture occurred most frequently in persons visiting the air-chamber for the first time; in other cases, however, the accident was evidently due to an actual tubal catarrh developed during the interval of a few hours, between two periods of labor. Only one case of rupture was seen immediately after the injury; it presented the appearance of a nearly vertical slit about two lines in length, in the posterior portion of the membrane; about a drop of coagulated blood was found in the external meatus. Two or three cases of purulent otitis media were treated in which the history pointed clearly to a rupture, followed by pain, discharge, &c. In one case, of several weeks' standing, there was a polypoid growth protruding through the perforated membrane. The polypus rapidly retreated under the careful use of solid chromic acid, applied upon the end of a fine probe; the perforation healed.

There was nothing peculiar in the cases of simple catarrh; some of them were quite mild, others rather severe; all did well under the usual methods of treatment.

It is currently reported, upon sufficiently trustworthy authority, that several cases of partial deafness have been cured by a visit to the air-chamber. Such an exposure acts, of course, as a powerful air-bath, and may sometimes suffice to overcome a tubal adhesion. It is certainly not to be commended as a plan of treatment.

In a few cases severe pain has been felt in the region of the frontal sinuses, on first entering the air-chamber. This may be explained by supposing an obstruction from swelling of the walls of the passage from the sinus to the middle meatus of the nostril. The excess of pressure upon the surface and in the open cavities of the body over that in the closed sinus, would doubtless lead to a speedy effusion of blood or serum within that cavity, giving rise probably to a secondary trouble from distention, when the external pressure is removed.

Hæmoptysis has also occurred, in one case, under the observation of the writer. The subject—the same in whom the recent rupture of the membrana tympani was observed—was a stranger visiting the works from motives of curiosity. He entered the lock under the guidance of a careless laborer, who admitted the condensed air so rapidly as to cause intense pain in the ears, ending in the rupture of one of the membranes. Frightened at this accident, he insisted upon being released, and the air was let off as rapidly as it had been admitted. The hæmoptysis occurred immediately upon

his stepping out of the lock; it was not large, and continued but a short time.—*Transactions of the American Otological Society.*

HOW TO PREVENT LEAD POISONING IN WATER.

Mr. A. McGordon read a paper on this subject before the British Association for the Advancement of Science, at a recent meeting. We take the following from the *London Medical Times and Gazette*:—

Mr. McGordon said that after employing sewage, which might have been used to fertilize the earth, in polluting the rivers which nature intended to be the source of water-supply, we spend hundreds of thousands of pounds in obtaining pure water from distant lakes and rivers; but no sooner does this pure water cross our threshold than, either from ignorance, carelessness, or false notions of economy, it is in many cases converted into a slow poison. Medical and scientific men have been long impressed with the great danger to health which is caused by the use of leaden cisterns and pipes as a means of storing and distributing water to be used for dietetic purposes; but this danger has not forced itself sufficiently upon the attention of the general public. The cheapness and ductility of lead for water conveyance have been allowed to override the dangers which are known to arise from the action of water upon it. This action is uncertain and various; but instances are so numerous where its effects are positively and immediately injurious, that all who have turned their attention to the subject have come to the same conclusion—that the use of lead should be abolished as a material for the storage and conveyance of water. No consideration, either of economy or convenience, should be allowed to prevail in the face of so important a danger. Dr. Lankester, from an examination of the action of the pure water supplied to Manchester and this town, found in both instances that where the water had been allowed to stand in leaden pipes there were proofs of contamination with lead; and he mentions several remarkable cases of diseases produced in households, which have come within the range of his own observations. He also points out that lead is an accumulative poison. A choice, then, of some other material for pipes, which will have the ductility and cheapness of lead without its dangers, becomes a matter of necessity. Various ob-

jections apply to various materials. Iron, for instance, being liable to rust, difficult of repair, and liable to break at the joints when houses settle. Galvanized iron has a diminished tenacity, and is liable to splitting and corrosion. Copper is, of course, out of the question for dietetic supply. Stone, though sweet and wholesome, is impracticable from the difficulties of working; while potteryware is liable to fracture, and guttapercha is wanting in durability and sweetness. Tin alone would be too expensive, and, as a pipe, would be wanting in pliability. The only practical mode of pipe construction which appears to meet on the one hand the requirements of purity and wholesomeness, and on the other cheapness and ductility, is a block tin pipe, encased in lead, the two metals so formed in conjunction with each other as to combine the qualities of ductility and pliability of the lead with the innocuous character and superior tenacity of the tin. The lead casing, which forms a protective coating to the tin pipe, being largely in excess, imparts to the pipe in its combined form the physical qualities which characterize lead, and the two pipes being so united at their surfaces of contact as to be inseparable by any contortion to which they may be subjected. The method of producing this pipe is simple and inexpensive, and consists in forming an ingot of lead, enclosing an ingot of tin, and forcing them simultaneously through a die and over a cone by the usual hydraulic power. The superior tenacity and lower specific gravity of the tin admits of such a diminution in the thickness and weight of the pipe that the manufacturers are enabled to offer it at the same price per yard as lead pipe of equal strength. In other words, it will cost no more to fit up a dwelling with this pipe than with the ordinary lead pipe. From experiments which have been made by the coöperations of Glasgow and in this town, it has been found that this pipe possesses a power of resistance to pressure even greater than that of lead pipe, more than double its weight per yard. Mr. McGordon stated, in conclusion, that wherever the invention had been applied, its sanitary value had been found perfect. The manufacture was daily increasing, and its merits were being recognized, not only in this country but in foreign countries.

The president said that a number of experiments were made a few years since by the Sanitary Association of Manchester, the result of which, he believed, was that no coating of tin applied in an ordinary way was sufficient to prevent the action of the

water on the lead; but, according to the plan explained by Mr. McGordon, a thicker coating of tin appeared to be applied, and that seemed to be a solution of the difficulty.

Mr. McGordon (in answer to the president) said that the price of the lead piping encased with block tin was not greater than that of lead piping.

Reports of Medical Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. REPORTED
BY F. W. DRAPER, M.D., BOSTON.

The Society met Jan. 28th, the President, Dr. George C. Shattuck, in the chair.

The President presented, for signature by members of the Society, a petition in aid of a petition by the Mass. College of Pharmacy for the passage of a law by the Legislature of Massachusetts regulating the dispensing of drugs, by imposing certain conditions of knowledge and skill in those practising pharmacy.

Mr. Markoe explained the provisions of the petition and the need of such a law, and appealed to the members of the Society to aid the project.

Dr. J. B. S. Jackson presented a specimen of fibroid tumor of the uterus, and indicated its distinctive features. It was situated in the muscular layer of the uterine wall, and in its physical appearance resembled that tissue. The uterus was enlarged, the cavity being elongated one third. Dr. Jackson pointed out certain exceptions to the rule that enlargement of the cavity of the uterus accompanies such growths invariably, as distinguished from ovarian cysts; if the tumor projects outwardly toward the peritoneum, its development may not cause enlargement of the uterine cavity, while, on the other hand, an ovarian cyst may, by becoming attached to the body of the uterus, produce in the course of its development the increase in size of the womb usually associated with fibroid tumors. Dr. Jackson emphasized the non-malignant character of fibroid growths in the uterus.

Dr. Fitz reported the microscopical features of the tumor; the tissue consisted of fibrous tissue with striæ of inorganic muscular fibre.

Dr. Bowditch related a case which had come under his notice, in which at intervals, accompanying the spontaneous rup-

ture of an abscess in the recto-uterine interspace, nodules of fibrous tissue were discharged by the rectum; the fragments consisted, as he thought, of portions of a fibroid tumor of the uterus which had undergone degeneration and had ruptured into the rectum. The nodules were not of a sloughy nature. The more detailed history of the case was unknown to Dr. Bowditch.

Dr. Jackson thought the nodules should be sloughy, if they originated as was supposed.

Dr. Lyman suggested a different seat of the growth in the absence of more marked uterine symptoms.

Dr. Lyman doubted the reliability of the uterine sound in certain cases. He had observed instances in which examination with the sound gave no sure indication of the altered size of the cavity of the uterus or in which the information was only negative; but the physical signs and digital examination after dilatation with tents indicated the presence of a tumor. He had found, too, that at the change of life there is sometimes a metritis, accompanied by elongation of the uterine cavity, both conditions subsiding together.

Dr. Jackson remarked that the rare cases of spontaneous discharge or of removal of stones from the cavity of the womb are probably the result of cretaceous degeneration of fibroid tumors.

Dr. Porter exhibited a preparation of the portal circulation in the liver of a dog. The vessels had been injected with differently colored agents, and the substance of the liver had then been corroded by hydrochloric acid diluted one sixth, leaving the ramifications of the vessels distinct.

Dr. Cheever exhibited a foreign body removed from the side of an adult patient, and related the history of the case. The man was at work in a planing-mill, when one of the belts broke, and a flat, steel coupling hook, an inch and a half long, with the ends curved inward, was thrown with such violence as to penetrate the wall of the chest, breaking the fourth rib in its passage; one extremity of the hook engaged itself around the rib, the other entered the pleural cavity. The wound of entrance was freely enlarged, so as to admit the finger, and air passed abundantly with each respiration. The lung did not collapse. As soon as suppuration was established in the pleural cavity, it was washed out daily with a dilute solution of chlorinated soda. After a severe pleuritis, a pneumonia, and the discharge of portions of necrosed rib,

the patient was at present, six weeks after the injury, convalescing, the lung being nearly expanded and the rib almost covered.

Dr. Cheever thought that when incisions into the cavity of the chest were necessary at all, they should in general be large, and that the results in the present case illustrated the benefit of such treatment in contrast with the effects of hermetically sealing such a wound.

Dr. Bowditch confirmed the opinion of Dr. Cheever concerning free incisions. He stated that after paracentesis thoracis, when only serum was withdrawn, and the patient was young and vigorous, the lung resumed its normal state in about a year.

Dr. Hayden exhibited a specimen of cancer of the stomach. It presented two sloughy patches, separated by a thin partition, the two ulcerations being together of the size of the palm. The tumor was in the lesser curvature, and did not involve either orifice of the stomach. The most marked symptom had been very copious hæmatemesis just before death. Previously, there had been pain in the epigastrium, occasional vomiting and waterbrash; but in general the gastric functions were well performed.

Dr. Jackson interpreted the absence of gastric symptoms by the freedom of the pyloric orifice from disease. He drew a distinction between the symptoms of encephaloid, even where it entirely surrounded the pyloric orifice, and scirrhus of the pylorus.

Dr. Ira L. Moore called the attention of the Society to the fact that an attempt was being made in the State Legislature to require by law that all physicians' prescriptions shall be written in the English language, with a view to prevent mistakes in administering drugs.

After a free general discussion, the following resolution, offered by Dr. Lyman, was unanimously passed:

"Resolved, That in the opinion of the Suffolk District Medical Society, the dangers arising from mistakes in preparing prescriptions can only be met effectually by requiring that no person shall be employed in putting up prescriptions who has not passed a satisfactory examination before a board of examiners of the College of Pharmacy; and that any legislation as to the language in which said prescriptions shall be written is inexpedient."

Dr. Treadwell reported the history of a case of death from chloroform, improperly administered to control supposed hysteria. The autopsy discovered a distended gall-

bladder, with commencing impaction of a gall-stone.

The Society adjourned.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.

MORRIS SPOFFORD, M.D., SECRETARY.

The Society held its quarterly meeting at the residence of Dr. George Cogswell, in Bradford. The records of the last meeting were read by the Recording Secretary, Dr. Root.

Algernon S. Nichols, of Haverhill, having passed a satisfactory examination before the Censors, was admitted to membership.

The fact that the name of a member of the Essex North District Society had been dropped from the rolls of the parent Society by a vote of the Councillors, was mentioned, and in connection with the same subject reference was made to the frequent practice of criminal abortion by physicians and the evils resulting therefrom.

Dr. Perkins, of Newburyport, had reason to fear that there were other members of the Society who had been guilty of the crime, and spoke earnestly in reprobation of their conduct.

The Society then partook of an elegant entertainment furnished by Dr. Cogswell, after which the host, in a few earnest words, extended a hearty welcome to the Society; addressing himself especially to the younger members, he spoke of the great change which had taken place, since he first entered the profession, in the reception accorded to young physicians by those who were already established, and congratulated them that now they were, almost invariably, cordially and kindly welcomed to a share in the pleasures as well as the burdens and responsibilities of their arduous calling. Dr. C. humorously warned the younger men to be in no hurry to step into the shoes and don the mantles of their seniors, for they were a long-lived fraternity, and could hold their business as long as they pleased. He urged them to work quietly, carefully and conscientiously to build up a practice, and, if they deserved success, it would surely come in time. Dr. Cogswell said he had earnestly devoted himself for twenty years to the practice of the profession; though circumstances had led him into other walks in which he had not been unsuccessful, it was often a source of regret to him that he had not kept the harness on, for no richer legacy could one leave to his children than the example of a life well spent in the practice of this noble profession.

The remarks were responded to by Drs. Perkins, Spofford, Kelley, Garland, and others, and the medical discussion was resumed.

Dr. Garland, of Lawrence, had long entertained the opinion that there was an intimate relation between the poison of syphilis and that of gonorrhœa, and the more he saw of the diseases the more he was confirmed in his suspicion. He reported a case in which a man had a blenorhœgia and no chancre, and his wife had a hard chancre.

Dr. George Cogswell believed with Dr. G. that the two diseases may proceed from the same poison, and mentioned the fact that many persons have a discharge from the urethra, produced by any irritation however slight.

Dr. Wm. Cogswell, of Bradford, reported a case in which the patient died of secondary syphilis where no chancre had ever been apparent.

Dr. Garland reported the case of a married lady, 40 years of age, healthy, but delicate and sensitive, the mother of two children. In July, she was taken sick with vomiting and purging. He was called at 10, A.M. Between 3 and 4, P.M., she vomited the medicine given, and was ordered mint and soda water, and a sinapism to the epigastrium. From the onset she had a quick, small pulse, restlessness and constant nausea. Dr. Garland gave her a subcutaneous injection of morphine, one-fourth of a grain, and requested his associate to see her (as he was called out of town), and repeat the injection if necessary. On his return, he found that the first and only injection had thrown the patient into profound sleep, from which it was impossible to arouse her; though all methods were tried, she died, fifteen hours after the injection, in a state of profound coma.

Dr. G. stated that, some three years ago, while applying atropine to her husband's eye, an atom flew from the camel's hair brush into one of her eyes, dilating the pupil of that eye so as to prevent her reading or sewing for three days. This revealed a remarkable degree of susceptibility to narcotics.

Dr. J. P. Whittemore, of Haverhill, was called upon by the mother of a young woman, two months married, who was flowing profusely, and had been for six weeks. She had been treated by irregular practitioners—two homeopaths and one advertising specialist—without relief. Dr. W. was asked to prescribe for, but not to visit her. To this he objected, giving as a reason the presumption of pregnancy, and that by

consent of the parties an attempt had been made to procure abortion. He was, however, induced to yield, and gave her a placebo. Some days after, he was called at midnight to visit the patient, and found that she had been having violent labor pains, that "something had come away, and now she was easier." He made an examination, and found the uterus, in a gravid state, lying between the thighs!

Considering this the result of the efforts before alluded to, he informed the patient and attendants that he must have the assistance of another physician, and one was called. The womb was replaced, but during the process a fetus of from three to five months escaped. She made a good recovery.

The Society voted their cordial thanks to Dr. Cogswell for his hospitality, and then adjourned.

Medical and Surgical Journal.

BOSTON: THURSDAY, MARCH 2, 1871.

A MOVE IN THE RIGHT DIRECTION, WORTHY OF IMITATION BY EVERY PHARMACIST.

In our Editorial of January 26th, we referred to the practice of many pharmacists taking on themselves the duties of the physician. We alluded to this custom not without good reason. With all due deference to the skill and wisdom of our pharmacists, in their own field, we cannot fail to recognize the mistake they are prone to make in prescribing for the sick or in dressing the wounds of the maimed. In our own practice, we are constantly cognizant of cases of malpractice on the part of apothecaries who overstep the bounds of their legitimate business. That a pharmacist occupies a corner store in a crowded locality, and enjoys a local repute as a "Doctor," is no reason that he should treat venereal diseases, surgical injuries and supposed constipation, or prescribe for "the chiel who is a little ailing" but may be on the threshold of serious disease. It is true the patient, who may have but little money in his pocket, gets his advice for the price of the medicine administered; but the remedy is often dearly paid for by aggravation of dis-

ease, when a moderate fee to our younger brethren would secure sound advice and a satisfactory cure.

We cannot help calling the attention of our friends, the apothecaries, to a sign we have just seen conspicuously posted in the shop of one of their own number. It is not for our sakes alone, but for their own good, that we advise them also to set up as a public notice, "We are pharmacists, but not physicians: we dispense medicines, but do not prescribe for diseases"; and when they have done so, we trust they will keep to their own legitimate calling and allow physicians to *treat* diseases.

ADVICE GRATIS TO THE PROFESSION.—Our attention has been directed to the practice of certain medical men of gratuitously and somewhat freely circulating pamphlets on professional subjects, setting forth the views of the author, and generally tending to show that he has some special knowledge of a disease, or some special and peculiarly successful mode of treating it. The merits of such productions vary very much. And so, no doubt, do the motives with which the authors act in scattering their works broadcast over the profession. Sometimes the motive is apparently unselfish; at other times it is difficult to believe that the author does not contemplate some personal advantage, as much as the dissemination of truth. This idea is often supported by the whole style of the author—the terrible description of the disease, the difficulties of diagnosis, the danger of making a mistake; the great extent of his peculiar opportunities for seeing the disease; the originality of his treatment, and his success in various cases, of which happy specimens are given—all seem intended to produce a conviction that the author is a man to be consulted. True, perhaps, he indicates the nature of his remedies. But he withholds details, or leaves you with the notion that to give the treatment a fair trial you must let the author have it and the case very much to himself.

We will not specify cases, as our authors are apt to do; we will keep to general remarks. And without any invidiousness, we will point out to all gentlemen who resort to the plan of taking a Medical Directory and distributing their scientific productions freely through the profession by means of the post, that such a course is undignified. The medical profession is capable of judging the merits of any scientific work

done by its members. There is no want of medical journals through which an author may put himself in communication with the profession. These journals are not only media of communication, but they are friendly critics of all medical doctrines and pretensions. If a communication is too poor to find insertion in these, there are the booksellers who are always ready to publish. But to distribute a work, or part of a work, gratuitously, is to make the confession that the profession will not buy it, and to justify a presumption that it is not worth buying. Men are not apt to appraise very highly that which comes to them gratuitously through the book-post, and of all things that come gratuitously through the book-post nothing is more lightly esteemed than medical literature. The profession is displaying a growing disapproval of all obtrusive ways of publishing cures and remedies. We need not say more to discourage a practice which savors of advertising rather than of faith in truth or love of science.—*Lancet*.

DISEASE-GERMS IN WATER.—Mr. Charles Heisch has published some experiments in the *Journal of the Chemical Society*, which aim at showing that the mere quantity of organic matter, nitrogenized or not, forms a very poor basis on which to found an opinion as to the wholesome character of any sample of water. We have very little doubt that this is the case, for chemical and pathological investigations pursued in different directions have already led to that conclusion. Mr. Heisch finds that, on adding a few grains of crystalline sugar to a certain infected water, in which no visible organisms could be seen, the solution became turbid in about twenty-four hours at a temperature of between 60 and 70 degrees, and presently a considerable development occurred of a torular character, subsequently producing filaments. The same thing occurs after boiling the water for half an hour. Mr. Heisch draws the conclusion that the water contained organic germs, irremovable by filtering (except through charcoal), and not destroyed by boiling, but capable of producing disease. The experiments are interesting, but we must observe that he fails to show that the germs were not destroyed by boiling in proving that he finds them afterwards; for he omits to eliminate the possibility that these germs may have been destroyed by boiling, in accordance with the prevalent belief; and that a new generation has occurred in his boiled

solution, which still contained organic matter mixed with sugar—a not unfavorable condition for the evolution of life.—*British Medical Journal*.

THORACENTESIS.—Dr. Jas. Cuming, Belfast, Ireland, gives (*Dublin Quarterly*) the following practical rules laid down by Bartels regarding the selection of cases in which thoracentesis is to be performed: "In all cases of simple serous effusion, accompanied by signs of displacement, the operation is requisite if the physical signs show that absorption has not commenced within a moderate time. It is not advisable to operate as long as febrile symptoms are present, unless there be urgent symptoms, such as distinct and considerable embarrassment of the circulation or of the respiration. The entrance of air into the pleural cavity is to be carefully prevented in cases of serous effusion. Purulent effusions are best treated by the establishment of a large fistulous opening, which permits a continuous discharge of the thoracic contents. If these effusions are removed by the trocar they rapidly accumulate afresh and exhaust the patient. If on puncturing the chest an effusion which had been regarded as serous is found to be purulent, it is advisable to remove the trocar and make a pretty large opening at once. The effusion is almost invariably purulent if pleurisy has occurred in connection with pyæmia, puerperal fever, and the like; if a febrile condition continues without any other cause after the effusion has ceased to increase; and is certainly purulent if œdema of the subcutaneous cellular tissue exists on the affected side. If pneumo-thorax coëxist with purulent effusion, the operation is indispensable to prevent the contamination of the system by septic fluids. To prevent septic infection it is necessary to cleanse the pleural sac daily, either by injections of water or of a weak solution of common salt, or by insufflation of air. Opening the cavity of the thorax by means of a bistoury is reserved for those cases in which a permanent fistulous opening is required." Dr. C. himself thinks the pneumatic aspirator (vide *American Practitioner* for August, 1870), possesses advantages over any other instrument for this operation.—*American Practitioner*.

EMPLOYMENT OF CARBOLIC ACID FOR THE RELIEF OF PRURITUS CUTANEUS.—At a meeting of the Niederheinische Gesellschaft at Bonn, Prof. Binz brought into notice the

advantage to be derived from this method of treatment. Pruritus, as is well known, chiefly attacks people of advanced age, and produces very serious discomfort. The violent itching leads to constant scratching, which occasions secondary lesions of the skin. Few remedies besides arsenic appear to have any influence upon it. Last year careful investigations were undertaken by Von Hebra to determine the value of carbolic acid, proceeding on the good results derived from its use in other dermatoses. These inquiries demonstrated that both prurigo (in which itching swellings occur) and pruritus (in which itching occurs without anatomical lesion) may be alleviated by the administration of carbolic acid. In one instance, a man of 74 years of age, of good position, who had suffered for more than two years from violent itching of the skin, began to take carbolic acid according to the Viennese plan, namely, in the form of pills, made up with extract of liquorice, containing at first 1½ grains of the acid, but gradually rising to 15 grains per diem. The effects were immediately apparent, and improvement still occurred as the dose was increased. To ascertain whether the improvement was or was not accidental, the use of the acid was discontinued on several occasions, but the itching was immediately observed to increase in severity, whilst it again diminished when the medicine was recommenced. After on one occasion the medicine had been taken for five weeks continuously in quantities amounting collectively to 15 grains per diem, gastric disturbances supervened, which, however, disappeared as soon as the medicine was given up. The use of the acid has not produced a complete cure, but it has so far mitigated the symptoms as to enable them to be easily borne. A second case is recorded, occurring in a young man, in which the acid effected no improvement, whilst the disease was speedily cured by the use of arsenic internally. From this it would appear that there is more than one kind of pruritus, requiring different methods of treatment. Morphia, it is well known, will occasionally induce a temporary attack of pruritus.—*London Practitioner*, from *Berliner klinische Wochenschrift*, No. 43, 1870.

A COLD DOUCHE FOR PRUSSIA.—Professor Norton, of Cincinnati, writes to the Editor of the *Lancet and Observer*, from Bonn, Prussia:—

"There is a tremendous amount of brag here about German science, but it all comes

about to this: that a dozen or twenty men are really first class, and that under the shadow of their reputation every dabbler assumes to be superior to the rest of the world. You have little idea of the assumption of these fellows, although you may have had a little taste of it in Cincinnati. It runs through their whole life. In everything Germany is at the head of the world—in arts, science, letters, and just now the military bubble is full of bursting. I get provoked with Prof. Englebach almost every day from some disparaging comparison that he sees fit to make. Not long ago, I was told by a German student that America ought to assist Prussia in the present war, because our victory over the South was due to our German soldiers. I believe that I am surrounded with circumstances more favorable than usual, but I must acknowledge that I am somewhat disappointed. I supposed that the Old World was so immeasurably superior to us in everything, that merely to see it was a complete education. It pays me to be here, in many respects, but there are a dozen American students who are, or were lately, here, who had better be at home, except with regard to the study of the language. They attend lectures on law, &c., when they hardly know enough German to buy beer and pretzels; and even when they are better acquainted with the lingo, they get little good of the lectures."

SANITARIUM FOR INVALIDS.—W. Pratt, M.D., of Chico, Cal., addresses the following letter to the Editors of the *Pacific Med. and Surgical Journal*:—"To your important question in the December number of the JOURNAL, "Where shall we send our consumptive patients?" I propose to contribute the following reply: Possessing weak lungs myself, I have given particular attention to the effect of the different climates and altitudes in which I have had the opportunity of observation, upon the respiration and the nervous system. In crossing our continent from ocean to ocean, on the various routes, I found that on the eastern side of the Sierra Nevada Mountains, in the northern counties of California, the climate possesses the nearest equilibrium of temperature, both in winter and summer, with the least atmospheric moisture, of any portion of the United States. Throughout this extensive and beautiful belt of country there are mineral waters of every variety and temperature, while the atmosphere is ever charged with the odor of the pine and balsam of fir. The scenery is grand, varied, and extensive be-

yond description. Wild game and mountain trout are exhaustless.

For the last fifteen years, when able, I have practised in the upper Sacramento Valley; but when overdone and exhausted by the debilitating climate, a visit to that favorite retreat has never failed to immediately revive and invigorate both mind and body. I have also, with unvarying success, sent my patients, when suffering from general debility, from whatever cause, in the same direction—varying the altitude according to the case.

With the evidence thus obtained I feel justified in believing this the best natural location for convalescents, invalids and consumptives, on our continent, if not the best in the civilized world; and when its advantages become generally known by the profession, enterprise will not be slow in developing, and art in improving, the facilities for its enjoyment by valetudinarians.

If any professional brother, or his friend, to whom life has become a burden, wishes to test the virtue of such a climate, and will meet me at my rendezvous next summer, at the Big Meadows, in Plumas County, I will take pleasure in gratuitously directing his efforts in so laudable an undertaking.

The locality referred to is also a delightful field for the able-bodied who seek recreation and sport, as well as for the invalid.

DIAGNOSIS BY EXAMINATION OF URINE IN OBSCURE FORMS OF URINARY DISEASE. By SIR HENRY THOMPSON, Surgeon and Prof. of Clinical Surgery to University College Hospital.—I wish to call attention to a mode of obtaining a diagnosis in some rare and doubtful cases of disease of the urinary organs, when all other modes have failed. I described it first in my clinical lectures at University College Hospital, some years ago, as a means of observation which had never to my knowledge been recommended or practised, and which I had adopted systematically, and which I have since found of extreme value in some exceptional instances. Thus, for example, we not seldom meet with a patient whose urine, usually containing a small or varying quantity of blood and pus, presents more or less albumen, but relative to the precise origin of which it is desirable to be certain. Some of the deposit produced is of course due to the admixture named; and while we may be right in believing the quantity to be equal only to the blood and pus in the urine, we cannot be certain whether some of it may not be due to renal changes. In such

a case, the other signs, and the symptoms also, are often insufficient to enable us to say whether they are due solely to vesical disease or to pyelitis, or whether there may be some renal affection, not to say constitutional albuminuria, complicating the conditions named. On the other hand, the symptoms may apparently indicate only an affection of the bladder; there may be no symptom of disease involving any higher portion of the urinary tract; nevertheless, the experiment to be described may prove the kidneys to be almost solely the seat of the malady. Few cases present more of obscurity than some of those with the characters thus briefly indicated.

The proceeding may be described as follows: A No. 6 or 7 flexible catheter is introduced into the bladder while the patient is in the upright position, and the urine drawn off is placed in a vessel apart. By means of an elastic gum-bottle containing a few ounces of warm water, the bladder is washed out two or three times, with about an ounce or two at a time, until the outflowing fluid is perceived to be quite clear. The catheter being left *in situ*, fresh urine from the kidney, untainted by any admixture, will now pass by drops into a test-tube placed to receive it; and a specimen, therefore, of true renal secretion, unqualified by vesical products, will be furnished in about five minutes, sufficing for a chemical analysis and useful to a certain extent for microscopical observation. By this simple process I have been enabled to solve the question of disease of the kidneys in some cases in which hitherto doubt as to their implication existed; and have often had the satisfaction of demonstrating that the secretion obtained direct from the organs was absolutely free from any sign of disease, where they had previously been suspected to be the seat of grave mischief. But there is one source of fallacy on applying this test which is occasionally to be met with. An illustration of it exists at this moment in the case of a man now in my ward at University College Hospital. If the bladder easily bleed with instrumental contact, as occasionally happens, the process may produce a slight admixture of blood in the urine so obtained, barely enough to tint it, but sufficient perhaps to occasion a considerable deposit to heat and nitric acid. It should never be forgotten, in estimating these products, that, for equal quantities of blood and pus, the former produces a much more bulky deposit of albumen than the latter. Of course, then, this disposition to slight bleeding, as a result of

the procedure, and any augmentation of albumen so caused, is of itself strong evidence of vesical rather than of renal disease. I should say that the incident just named is one of rare occurrence.—*Brit. Med. Jour.*

HYDRATE OF BROMAL.—There is a valuable article by Dr. E. Steinauer, of Berlin, in the last volume of *Virchow's Archiv*, on the action of the hydrate of bromal on animals and on man. The experiments were made in the Berlin Pathological Institute, and were under the immediate direction of Liebreich himself. The hydrate of bromal, according to the observations detailed, when administered to animals, undergoes a similar change to that undergone by chloral, being converted by the alkalies of the blood into bromoform. But this change goes on slowly, for at the end of an hour and a half there was found in the blood, in addition to bromoform, still some undecomposed bromal. The substance is further oxidized and evacuated in the urine as bromide. The symptoms produced by bromal on animals (frogs, rabbits, guinea-pigs), were first a stage of restlessness, followed by imperfect sleep and anæsthesia, and finally dyspnoea and death, with or without convulsions. After large doses, both in frogs and rabbits, the heart was found after death relaxed and distended—whereas, after smaller doses, it was contracted. In the former case there is probably direct paralysis of the heart by the bromoform, such as occurs after large doses of chloroform. The preliminary stage of restlessness, which has no equivalent after administration of chloral, is ascribed to the action of the bromal aldehyde itself, the decomposition occurring, as stated above, more slowly than is the case with chloral. The author observed a stage of restlessness, after a hypnotic dose of chloral, in a patient suffering under gout, and he ascribed this to the acid state of the blood preventing the usual decomposition into chloroform. With this view he administered alkalies to the patient, and after a few days the same dose of chloral produced the usual hypnotic effect. Proceeding from this, he applied the same principle in his experiments with bromal. Having injected carbonate of soda subcutaneously in rabbits, he then injected the hydrate of bromal, and found that the stage of restlessness was entirely absent. The author has administered bromal to man in only a few cases. He has found good effects from it in epilepsy, and in soothing the pains of *tabes dorsalis*. The method of administra-

tion which he has ultimately employed is, first, in the morning and at mid-day a powder containing about 14 grains sodæ bicarb.; then in the evening two to four pills, containing each from one half to a grain and a half of bromal.—*Med. Press and Circular.*

TREATMENT IN SCIATICA.—Mr. J. Waring Curran recommends the following plan of treatment in sciatica:—

In a small porcelain vessel, I mix one grain of morphine and three grains of extract of belladonna with six drops of creasote. I get my patient out of bed, standing as erect as the nature of his disease will permit him, and begin making small incisions, half an inch long, with an intervening space of three inches between each incision, cutting only through the skin and subcutaneous cellular tissue. I make the incisions alternate on each side of the nerve, beginning underneath the fold of the *gluteus maximus*. Having wiped off the effused blood, I quickly rub in the composition. The morphine and belladonna allay the pain, and the creasote sets up, if properly applied, a certain amount of local irritation which is very desirable. M. du Chaillu, in his exhaustive and popular work on the gorilla, records a somewhat similar procedure existing among the Celond races. If my memory serves me, caustic lime is the agent he records as being employed.

To every patient suffering from sciatica, I exhibit iodide of ammonium, and I have remarked, as I hope soon to show, that its therapeutic power is superior to the iodide of potassium, but in no complaint will this be appreciated more than in the eruptive stages of syphilis and in diseases of the glandular system. The patient, bent double with acute pain, will be found, after the incisions are made and the morphine composition rubbed in, able to move his legs freely in any direction. There is, of course, a numb feeling experienced, but the liberation from acute suffering provokes an expression of gratitude which is conclusive evidence of the value of the plan of treatment adopted.—*Rich. and Louis. Med. Jour.*

TEACHING OF DENTAL SURGERY IN AMERICA.

—The correspondent of the *Times* at Philadelphia, writes as follows of the American Schools of Dental Surgery: While Americans of culture to finish their education usually go to the Universities of Europe, in the speciality of dentistry the current is reversed, the graduates of the highest medi-

cal schools abroad coming to the United States, and chiefly to Philadelphia, to finish their dental education. There are in the United States nine dental schools, two being in Philadelphia, two at Boston, and one each at New York, New Orleans, Baltimore, St. Louis, and Cincinnati. Two-thirds of all the students attend the two colleges in this city, of which the "Philadelphia Dental College" is the chief, and it is noticed that about one-fourth of the students at this college are generally from abroad, nearly every country in Europe being represented. Of the high distinction of having graduates from the Universities of London, Vienna, and Berlin, come here to finish their dental education the Philadelphians are quite proud, as they also are of the fact that their city contains the most extensive manufactory of dental instruments and artificial teeth in this country, if not in the world.—*Med. Press and Circular.*

INJURY TO THE TESTICLES.—A correspondent in Pennsylvania writes us as follows:— "Two cases have come under my notice in each of which a testicle was completely denuded, and cures were effected without any unpleasant symptom supervening. The first was a case in which, by accident, near two-thirds of the scrotum was removed, and one testicle completely laid bare. The second, a case of gun-shot wound, in which the right testicle was perforated by a ball. Intense inflammation took place, followed by mortification and loss of the wounded testicle, together with nearly all the scrotum, barely sufficient being left to give the remaining organ a very tightly fitting covering. Both these patients recovered without a single drawback.—*Medical and Surgical Reporter.*

A WOMAN named Cooper, housekeeper to Mr. W. Boyce, at Newmarket, was sitting near a table on which were some poisoned papers for the purpose of killing flies. A fly was seen to go to one of these papers, and then to alight on the woman's nose, which was slightly scratched. The wound speedily became inflamed, in a short time her whole system became affected, and in about twenty-four hours she died.—*Lancet.*

DR. BARNES proposes a new operation of embryotomy by means of the Wire-Ecraseur, which he thinks can be used with advantage in the narrowest pelvis.—*New York Med. Gazette.*

Medical Miscellany.

THE BOSTON OBSTETRICAL SOCIETY.—The following gentlemen were unanimously elected officers of the Society at a meeting recently held:
President.—Dr. Charles E. Buckingham.
1st Vice President.—Dr. Francis Minot.
2d Vice President.—Dr. George H. Lyman.
Corresponding Secretary.—Dr. Luther Parks.
Recording Secretary.—Dr. J. B. Treadwell.
Prudential Committee.—Drs. Chas. G. Putnam, William W. Wellington, of Cambridge, James Ayer, Benjamin E. Cotting.

AMERICAN MEDICAL ASSOCIATION.—The twenty-second Annual Session of the Association will be held in San Francisco, Cal., May 2, 1871, at 11, A.M. The various committees appointed at the meeting in Washington are expected to report. Secretaries of all medical organizations are requested to forward lists of their delegates as soon as elected, to the Permanent Secretary. Any respectable physician who may desire to attend, but cannot do so as a delegate, may be made a *member by invitation*, upon the recommendation of the Committee of Arrangements.

W. B. ATKINSON,
Philadelphia. Permanent Secretary.

PROF. RUDINGER, of Munich, has been raised to a Professorship in the University in recognition of his contributions to science in his department of anatomy, and decorated with the iron cross for his services during the present war.

THE CAUSATION OF TYPHOID FEVER.—Dr. EDWIN M. SNOW, the Registrar of the city of Providence, states in his report for November, 1870, that "There were ten deaths from typhoid fever in Providence in November, which number was larger than the average. This disease has been more than usually prevalent in the city during the last three months, though with no approach to an epidemic, or endemic prevalence. In numerous places in the country portions of the State, especially near streams or ponds of water, typhoid fever has been very prevalent and fatal this year. The result of extended investigation in this city and State during the last twenty years seems to indicate that typhoid fever is caused by certain conditions of decaying vegetable matter, while typhus or ship fever results from causes connected solely with animal matter. Hence, perhaps, we have an explanation of the fact that typhoid fever prevails much more in the country than in the city, while typhus is found more where human beings are crowded."

THE NEW ANÆSTHETIC.—The new anæsthetic, *chloralyl* or *ethyliden chlorid*, discovered by the distinguished Dr. Oscar Liebreich, of Berlin, the discoverer of chloral hydrate, is really an agent of great promise. We have during the past two months experimented with it considerably; and we find in our own case it produces anæsthesia quickly, and is free from any unpleasant after-symptoms. It certainly produces less nausea than

chloroform, or ether, the insensibility is very profound, and the agent has a pleasant odor. These are important considerations. The only drawback is its high cost, it being ten times greater than chloroform. With improved methods of manufacture this objection may be overcome.—*Boston Journal of Chemistry.*

DR. ADELLMAN, of Dorpat, strongly advocates forced flexion of the limbs in traumatic hemorrhages, as a very important hemostatic measure.

To CORRESPONDENTS.—Communications received: Painful Crepitation of the Tendons.—Two Cases of Glioma.

Dr. O'G.'s remittance received from abroad.

CORRECTION.—In JOURNAL of Feb. 23d, in title of Editorial article on page 131, for "Death from Chloroform" read *Death from Ether*.

PAMPHLETS RECEIVED.—Report of the Pennsylvania Hospital for the Insane for the year 1870. By Thomas S. Kirkbride, M.D., Physician in Chief and Superintendent. Pp. 56.—Management of the Obstetrical Forceps. By C. C. P. Clark, M.D., of Oswego, N. Y. From the Transactions of the New York State Medical Society for 1870. Pp. 24.—Prostitution and its Sanitary Management. By Edmund Andrews, M.D., Professor of Principles and Practice of Surgery in Chicago Medical College. Pp. 33.

MARRIED.—In Boston Highlands, Feb. 22d, Benjamin H. Mann, M.D., to Miss Martha E. Foss.

Deaths in seventeen Cities and Towns of Massachusetts for the week ending Feb. 25, 1871.

Cities and Towns.	No. of Deaths.	Prevalent Diseases.
Boston	108	Consumption 56
Charlestown	9	Pneumonia 32
Worcester	16	Croup 7
Lowell	17	Typhoid fever 7
Milford	8	Scarlet fever 6
Chelsea	4	
Cambridge	15	
Salem	6	
Lawrence	14	
Springfield	6	
Lynn	7	
Fitchburg	8	
Newburyport	5	
Somerville	3	
Fall River	7	
Haverhill	9	
Holyoke	7	

249

Four deaths are reported from smallpox; two in Holyoke, one in Boston and one in Lowell.

GEORGE DERRY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, Feb. 25th, 1871. Males, 61; females, 47. Accident, 2—abscess, 1—apoplexy, 1—inflammation of the bowels, 1—bronchitis, 4—disease of the brain, 3—cancer, 3—consumption, 20—convulsions, 2—croup, 4—debility, 3—dysarrhea, 3—dropsy, 2—erysipelas, 1—scarlet fever, 2—typhoid fever, 4—gastritis, 2—hernia, 1—disease of the heart, 4—intemperance, 1—disease the kidneys, 4—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 7—marasmus, 10—old age, 3—paralysis, 3—premature birth, 2—peritonitis, 1—rheumatism, 1—scalded, 1—smallpox, 1—syphilis, 1—teething, 2—unknown, 6.

Under 5 years of age, 41—between 5 and 20 years, 6—between 20 and 40 years, 24—between 40 and 60 years, 16—above 60 years, 21. Born in the United States, 68—Ireland, 28—other places, 12.